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ABSTRACT

Current and alternative funding methods for higher education in Pennsylvania are reviewed by the Commission on the Financing of Higher Education and recommendations are offered. Areas of concern are: using scarce state resources to improve student access and educational quality; strengthening the diversity of college programs and institutions; promoting better management; and responding to different college missions. After reviewing the legal and historic bases for funding various sectors and schools, attention is directed to the state's past practices, future needs, and higher education's role into the twenty-first century. The 27 recommendations are organized under four themes: pursuit of excellence; student access and participation; economic revitalization; and accountability and management. Both access and college choice are addressed, along with the specific role of the community college system. Specific topics concerning economic revitalization include: college roles in developing an educated work force; the use of college research capabilities to assist industry expansion into new growth areas; and the importance of cooperative relationships among business, industry, colleges, and government. (SW)

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Governor's Commission on the Financing of Higher Education

Robert E. Kelly, Chairman

1985

Commonwealth of Pennsylvania
Dick Thornburgh, Governor

Department of Education
Margaret A. Smith, Secretary of Education
James Oliver Hunter, Commissioner for Higher Education

Final Report

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FINAL REPORT

The Governor's Commission
on the Financing of Higher Education

Robert E. Kirby, Chairman

April, 1985

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PREFACE

This report of the Commission on the Financing of Higher Education represents the first study of Pennsylvania higher education initiated by Executive Order in over 20 years. Governor Dick Thornburgh created the Commission with Executive Order 1983-8 as one in a series of steps being taken to ensure the quality, accessibility, and financial stability of higher education in the Commonwealth. Business and community leaders appointed to the Commission were asked to study current methods by which the Commonwealth funds higher education, to examine objectively alternatives to current funding methods, and to identify areas of special need at Pennsylvania's higher education institutions.

Pennsylvania faces major challenges to the current status of its higher education institutions. The industrial world is giving way to a new society in which information, high technology, and the provision of services are critical to a strong economy in an increasingly competitive world. Traditional industries need employees with nontraditional skills to implement new technology.

At the same time that Pennsylvania needs more of its citizens to participate in postsecondary education for economic revitalization, it faces a reduction in its traditional college entrant age population and increased competition among colleges for its top ranking high school graduates. Other states, especially Sun Belt states, are developing aggressive recruitment campaigns and special incentives, i.e., low tuition, merit scholarships and access to state-of-the-art

teaching equipment, to attract out-of-state students to their colleges and universities. These factors, combined with limitations on public revenues, underscore the importance of the Commonwealth developing more effective means of directing funds to higher education.

The Higher Education Environment

Pennsylvania has been served well by a diverse array of colleges and universities, some constituting a public system of higher education and others a private sector, which was independent of public-sector planning and management before 1971. Perhaps because the number of its church-related colleges, some receiving state funds, increased in the Commonwealth during the 19th century, the state did not develop a public system of higher education until the early 20th century.

The Morrill Act of 1862, which established land grant colleges, led to the development of a small college which has since become The Pennsylvania State University. In the mid-1960s The Pennsylvania State University, Temple University and the University of Pittsburgh became state-related and Commonwealth universities. Lincoln University joined the public system as a state-related institution in 1972. Penn State, Pitt, and Temple serve as the state's major public research universities, offering a broad range of undergraduate, graduate, and professional programs. Lincoln is a liberal arts and pre-professional institution which has a predominantly black student population. In 1984-85, these four institutions received funds totaling $358,053,000 in "non-preferred" appropriations, under separate bills approved by the Legislature and signed by the Governor.

Earlier in this century, the former normal schools in Pennsylvania were transformed into 14 state teachers colleges, and in the 1960s, into comprehensive state colleges. One of the institutions achieved university status in 1965. The rest of the state colleges became universities in 1983, and the 14 institutions now constitute the State System of Higher Education (SSHE).

The universities in the SSHE offer undergraduate and master degrees in the liberal arts, the sciences, and teacher education. The SSHE also offers doctoral programs at Indiana University of Pennsylvania and cooperative doctoral programs with other institutions. The SSHE's primary mission is to provide Commonwealth citizens with a high-quality education at a low tuition. The institutions receive a "preferred" appropriation, which means they are funded under the General Appropriations Bill as a government agency. In fiscal year 1984-85, $252,723,000 was appropriated for SSHE.

From 1963 to 1971, the Commonwealth, in cooperation with counties or school districts which serve as local sponsors, expanded its public system of higher education by creating 14 community colleges. The community colleges provide the first two years of many baccalaureate programs and also concentrate on preparing students for employment. Community colleges receive approximately one-third of their operating budgets from a preferred appropriation. In 1984-85 the appropriation totaled $88,426,000.

While the public sectors developed, Pennsylvania's private sectors continued to expand. By 1984 there were 118 private colleges and universities and 73 specialized associate degree-granting (proprietary) institutions in the state.

Twelve private colleges and universities in metropolitan Philadelphia receive non-preferred appropriations for specific programs and are referred to as "state-aided" by the Commonwealth. These schools received allocations of $51,435,000 in 1984-85. In addition, the Commonwealth provides direct institutional support to private higher education through the Institutional Assistance Grant program.

In recognition of this blend of public and private institutions, the Commonwealth, in 1963, formed the Pennsylvania Higher Education Assistance Agency (PHEAA) to provide financial assistance to students. Student aid is given principally in three forms, loans, grants, and work study programs. An appropriation of $88,027,000 was allocated to PHEAA in 1984-85, but it should be noted that this investment in student aid is magnified by federal funding which provides some ninety percent of student aid resources. The philosophy which led to the Commonwealth's decision to provide extensive student assistance is that Pennsylvania should continue to have a tuition-based system of financing higher education. The Commission concurs in this philosophy and has sought ways to improve access and excellence while not deviating from this policy.

Higher education, in addition to the direct benefits of an educated and skilled population, provides indirect but substantial benefit to the Commonwealth. The mere presence of a higher education institution aids the local economy. Higher education institutions benefit their communities by providing specific programs requested by citizens. Together, colleges and universities are the

Commonwealth's 9th largest industry, employing over 100,000 people. The Pennsylvania Economy League found in 1981 that, for every $1 invested in higher education, the institutions provide a return of $1.70. The multiplier effect of institutions', employees', and full-time students' spending translated to $3.8 billion in consumer spending by members of the higher education community in Pennsylvania in 1981.

In addition, basic research at the universities is a stimulant to improving the health and welfare of all citizens. Discoveries lead to the revitalization of the economy, and more importantly, impact on the health and welfare of all people. The Salk antipolio vaccine, for example, developed at a state-related university, has saved millions of lives around the world.

Pennsylvania is in the forefront of robotics and artificial intelligence research as well as other high technology research. For example, a recent Department of Defense contract awarded over $100 million to a Pittsburgh institution for development of a Software Engineering Institute to research faster and better ways of producing computer programs. At the same time, a university in Philadelphia has developed an engineering curriculum devoted to developing "appropriate technology" for Third World nations; that is, technology that uses developing nations own resources rather than forcing them to be heavily dependent on other countries.

Extensive basic research now being conducted will ultimately lead to the cure for diseases, the development of new products, and the improvement of the world's environment. Without adequate financial support for basic research, which universities are uniquely capable of performing, the development of new knowledge would be severely limited in the Commonwealth.

The Commission's Charge

Recognizing the importance of all higher education institutions to a Commonwealth vigorously revitalizing its economic base and planning its future, the Governor asked the Commission to address the issue of how scarce state resources could be used more effectively to improve student access to as well as the quality of higher education. The Commission was specifically charged to consider how to sustain and strengthen the diversity of higher education programs and institutions in the Commonwealth, to maximize overall contributions to the public good, to encourage efficient management, and to recognize and respond to different college or university missions.

This study was not intended to result in a revenue-producing plan nor a call for substantial new spending initiatives by state government. Moreover, this study was not expected to yield a master plan for higher education. In fact, the Commission anticipates the early completion of a master plan under the direction of the State Board of Education. It is in such a plan that the missions of various segments and institutions need to be straightened out and

identified with more care. Dealing with problems of branch campuses, duplication of effort, and other educational program issues is more properly handled in that context, even though such issues do impact on the economic use of money and resources with which our Commission is concerned.

Although the Commission did not view its work to be pure advocacy for higher education, there was unanimous recognition of the crucial, even pivotal, role that higher education must play in revitalizing our economic future and retaining an acceptable social structure. The Commission believes that public dollars spent on education are a wise and essential investment in the future growth and prosperity of this Commonwealth.

Principles

The Commission formulated the following assumptions, or principles, to establish a frame of reference for its deliberations and recommendations.

1. Since knowledge is essential to decision-making in a democratic society, a commitment to, and investment in higher education in general and liberal arts in particular, are among the Commonwealth's greatest traditions and assets.

2. Pennsylvania's unique mixture of public and private higher education institutions has served its citizens well and should be preserved insofar as it is consistent with the state's educational needs and financial resources.

3. As Pennsylvania expands its economy from a primary reliance on basic manufacturing, mining and farming to a greater reliance on high technology and service industries, its citizens need to be adaptable to change; therefore, a larger proportion of high school graduates must receive higher education to prepare them to enter the changing economy.

4. The Commonwealth should continue its commitment to student access and choice of higher educational institutions by: a) providing stability to public colleges and universities through consistent and reliable funding to contain tuition increases, and b) by providing student financial aid to deserving citizens, especially those who are financially disadvantaged.

5. Higher educational institutions should, in turn, continue to implement cost-containing methods to keep tuition increases low while maintaining excellence in their programs.

6. Business and industry should continue to recognize the mutual advantage created by vigorously supporting higher education in the Commonwealth.

7. Higher educational institutions should play a vital and growing role in Pennsylvania's changing economy and should actively cooperate with the private sector to that end.

8. The Commonwealth should encourage, promote and assist mutual advancement of higher education, business, and industry.

9. Parents and students should continue to plan for and accept primary responsibility, commensurate with their means, in meeting the student's cost of higher education.

10. The Commonwealth and higher educational institutions should make a commitment to a carefully conceived and managed set of relationships between them to make institutions more accountable for the funding they receive and to direct more funds to programs that promote economic development and can be adopted by many institutions in the state.

11. Financial pressure may threaten the continuance of some higher education institutions, but the Commonwealth cannot be expected to subsidize the operating deficits of institutions and should not divert scarce resources from the institutional network it currently supports to do so.

Framework of the Study

The Commission's study began with a review and an appraisal of the legal and historic bases for funding various sectors and institutions of higher education within Pennsylvania. It then considered the state's past practices, future needs, and higher education's role into the 21st century. These factors both conditioned the Commission's deliberations and shaped its recommendations.

The role of higher learning in the economic revitalization of the Commonwealth is of particular importance when one considers the future of Pennsylvania higher education. Several economic development initiatives in progress are demonstrating that institutions of higher education are eager and effective partners with industry in these efforts.

One example is the Ben Franklin Partnership, a program designed for business, industry, government, and higher education to work jointly in creating jobs, improving productivity and diversifying the state's economy. Another example of cooperative efforts is the Customized Job Training program, in which a college or university contracts with a company to train its employees in a specific area. The Commission stresses the importance of such partnerships in undertaking joint initiatives in areas of research, development, training and job creation.

The Commission met for one year. Sitting as a committee of the whole and in various subcommittees, 38 meetings were held. Testimony and letters of advice were received from parties in the state, including representatives from each higher education sector. The Commission prepared a synopsis of its preliminary findings and recommendations and solicited more advice from higher education representatives before preparing this final report.

The Commission has organized its findings and recommendations under four fundamental themes. They are as follows:

1. PURSUIT OF EXCELLENCE;

2. STUDENT ACCESS AND PARTICIPATION;

3. ECONOMIC REVITALIZATION; and

4. ACCOUNTABILITY AND MANAGEMENT.

The Commission grouped the many recommendations of its subcommittees within these themes. This course of action enabled the Commission to condense its findings into specific recommendations addressing its initial charge and specific problems affecting each sector.

PURSUIT OF EXCELLENCE

After examining the environment in which Pennsylvania higher education exists today, and looking at the projections of the change in Pennsylvania's economic base, the Commission concludes that the pursuit of excellence by institutions and students is more important than ever before.

Graduates face many challenges as they attempt to apply acquired knowledge and skills, not only in seeking employment in a rapidly changing economy, but also in exercising responsible citizenship in a society of changing needs and values. In providing liberal arts and career education, graduate and professional preparation, and research and services for the common good, colleges and universities represent a major investment by society.

No democratic state or nation can function properly without an educated citizenry that is responsive to its values and needs. If cultural values are to be safeguarded and transmitted, men and women must be able to clarify values, to think critically, to deal rationally with complex issues and to provide leadership.

While recognizing the important and necessary contributions of higher education, the Commission also is aware that the Commonwealth has many other pressing demands, in addition to those of higher education, on its finite tax resources. Business, industry, foundations and individuals must join in the financial support of higher education to ensure that students attending Pennsylvania institutions are receiving the best instruction possible.

Distinguished faculties, modern equipment and instruments, and an abundant supply of reference materials are needed for this purpose.

Pennsylvania has a history of excellence in higher education. Five of its universities are among the country's top 100 in the amount of research and development funding they receive from the federal government -- an indication of national confidence in the excellence of the institutions. Four Pennsylvania institutions are members of the Association of American Universities, which is composed of the 52 largest research universities in North America. U.S. News and World Report magazine recently surveyed college presidents throughout the country to determine the best colleges for undergraduate study. Pennsylvania institutions ranked in the top 10 in 4 out of the 5 categories for which the state qualified. There are many ways to evaluate excellence in higher education in a state, e.g., conducting surveys and comparative studies of such data as the amount of research money awarded to institutions, the number of graduates receiving individual honors, and the number of Rhodes and Fulbright scholars from Pennsylvania. Pennsylvania ranks high in any such comparison.

One reason the state's institutions are ranked high is the quality of their faculties. To supplement the instruction from these qualified scholars, however, requires funds for endowed chairs, distinguished visiting faculty programs, and more sponsored research. The Commission supports efforts in this regard.

By regularly evaluating itself, an institution can decide where changes need to be made to ensure the pursuit of excellence. An institution should have a structured plan to evaluate its programs and graduates. A management information system (see Accountability and Management section, page 28) would be useful by providing data that is comparable across programs and among institutions.

It is not only important that high school graduates have learning skills essential to function in society, but also that higher education institutions receive students prepared to profit from undergraduate education. Colleges and universities can then raise academic standards and maximize the intellectual growth of their students. Preparation should also engender high self-expectations in students and encourage them to attempt activities, such as enrolling in higher education institutions, which they might not have attempted otherwise.

Implementation of programs of educational remediation such as the Commonwealth's Testing for Essential Learning and Literacy Skills program make an important contribution in this area. Short-term remediation needs of college students could be met by cooperative programs between community colleges and adjacent four-year institutions for remedial education.

Out-of-state students attending Pennsylvania graduate schools add new perspectives to research and excellence in the state's institutions. Such students should have incentives to attend Pennsylvania institutions.

TO STRENGTHEN THE COMMONWEALTH'S COMMITMENT TO EXCELLENCE IN HIGHER EDUCATION, THE COMMISSION RECOMMENDS THAT:

a) The Council of Higher Education should develop an incentive plan for public institutions seeking increased private support to enhance their academic programs. This private support would be used for the renovation of facilities, the recruitment of distinguished faculty, the establishment of chairs of excellence and visiting professor programs, the purchase of equipment and other learning resources, rather than initiating new building projects. Private support should be considered to be supplemental to state support and no public institution raising private funds should receive less state support because of its success in doing so.

b) Pennsylvania should adopt minimum academic and attendance standards as requirements for receiving state financial aid, such as the federal government has done for its financial aid programs.

c) Pennsylvania should establish a merit award program to encourage more of its outstanding high school graduates to continue in higher education and to stay in the state for their education. This program would be in addition to the need-based financial aid program.

d) Pennsylvania should pay special attention to the differentiated missions of the various sectors. State support for institutions should be differentially allocated to strengthen and emphasize the unique missions of each sector (see Accountability and Management section, page 30).

e) The Commonwealth should conduct a study of graduate level tuitions to determine the proper in-state, out-of-state ratio to attract a sufficient number of out-of-state graduate students to maintain enrollments at reasonably full levels.

f) Institutions of higher education should intensify their efforts to develop structured plans, using data from PDE and elsewhere, to provide for qualitative improvements.

STUDENT ACCESS AND PARTICIPATION

The concept of student access embraces two distinct issues. The first issue is that of fundamental student opportunity for a higher education experience, and the second is that of student choice among the institutions providing the experience. Pennsylvania addresses both of these aspects of access through student financial aid provided by the Pennsylvania Higher Education Assistance Agency. PHEAA strives to provide both access to and choice among Pennsylvania's institutions of higher education for low and moderate income students. Partial state grants can be applied to institutions in noncontiguous states in the United States regardless of reciprocity and to institutions in contiguous states which offer reciprocity of aid to their high school graduates attending Pennsylvania schools. This policy expands the student's choice among institutions to those located outside the Commonwealth of Pennsylvania.

Notwithstanding the liberality and the scope of the PHEAA programs, some needy students do not qualify for aid. Of particular note is that part-time students are not eligible to receive PHEAA grants. This is unfortunate at a time when many members of the work force must be retrained and reeducated for new jobs and displaced homemakers must enter or reenter the job market. Many persons in these groups cannot attend school full-time while supporting themselves and their families. As part-time students, they are not eligible for state-funded student grants from PHEAA. Part-time students constitute a larger part of the pool of potential students than at any time in the past. The Commission

concludes that part-time students should be eligible to receive PHEAA grants, thereby helping Pennsylvania's work force adapt to a changing job market and making both opportunity and choice as available to them as it has been for full-time students.

In addition to part-time students, there is another segment of the population entering colleges and universities for the first time. This segment consists of high school graduates who formerly chose to enter local industry, with the promise of high wages, rather than enroll in higher education. An economy in transition from heavy industry has made it necessary for workers to acquire new knowledge and skills. Remedial efforts, flexible student financial aid, and learning opportunities at convenient times and places are needed to accommodate these individuals. Career education programs designed to serve this segment are highly desirable to prevent continuing unemployment.

In addition to grants and loans, emphasis should be placed on enhancing work-study programs as a way to ensure access and choice in Pennsylvania higher education. A state-funded work-study program should be created to give students in Pennsylvania a third option to finance their higher education experience. The federal work-study program allows students to use their work-study opportunities only in the not-for-profit sector. The Commission concluded that a state work-study program should offer students an opportunity for employment in both the for-profit and not-for-profit sectors.

The Act 101 program, which provides tutoring to economically and educationally disadvantaged students, is another commitment to excellence and access. This program, with offices on only 71 campuses, provides help to students who, though not prepared for college, have shown the potential to succeed at that level of education. The recently published study, The Impact of Act 101 Programs in Pennsylvania, indicates that this program is a key factor in helping nontraditional students succeed in college.

Community colleges have been viewed nationally and in Pennsylvania as a threshold opportunity for students to gain access to higher education. There are 14 such two-year institutions in the state. Approximately one-third of the cost of an education in Pennsylvania's community colleges is provided by the Commonwealth, one-third by local sponsors, and the final third by students. The Commission concludes that this cost-sharing arrangement in this form of education appropriately balances community participation with individual responsibility and the public good and should not be changed. By statute, the local sponsorship of these institutions may be handled in various ways. One form of local sponsorship is currently creating problems in two community college service areas. The Commission believes that each instance of deteriorating local sponsorship must be considered separately. The Department of Education should make remedial recommendations to the General Assembly and local communities as appropriate.

The Commission recognizes a part of the fiscal pressure experienced by local sponsors derives from the infrequent review and adjustment of an appropriation "cap" established on the state share of community college costs. As the Commonwealth falls significantly below its one-third share of the costs these burdens shift to the local sponsor and the student. It is important that the "cap" be periodically reviewed to ensure the state is paying a full one-third of the community colleges' costs.

For student access to be comprehensive in a state as large and with as diverse a population as Pennsylvania, it is essential that complete information on educational programs, criteria for admission, student assistance and career opportunities be made available to all potential recipients and that students and parents be made aware of the benefits of higher education at an early stage. Lacking this information, they often dismiss higher education as an unattainable goal or an unworthy commitment. The Pennsylvania Occupational Information Coordinating Committee has recently published a guide dealing with those aspects other than financial assistance. The financial assistance information needs to be addressed.

The Commission concludes that ways must be found to extend opportunity and choice to every potential student in the Commonwealth of Pennsylvania by making them aware of the availability of financial aid and the desirability of using it. Public school guidance counselors, private school advisers, public service announcements on radio and television, publicity in all media, on-line computer

information, and every other conceivable means should be used to notify potential students and their parents of the types and amounts of financial aid and enrollment opportunities. Postsecondary institutions should redouble their attempts to familiarize potential students with these benefits in Pennsylvania.

TO INCREASE STUDENT OPPORTUNITY, CHOICE, AND PARTICIPATION IN PENNSYLVANIA THE COMMISSION RECOMMENDS THAT:

a) A new program funded with new money should be established to provide financial aid to part-time students. For these students to be eligible for assistance, they should be enrolled for at least six (6) semester credits in a two-year accredited academic or career-related program.

b) The Commonwealth and the higher education community should expand their information dissemination efforts so that timely, detailed and accurate financial aid and enrollment opportunity data are readily available throughout Pennsylvania. A computerized information network, along with use of public media and professional guidance, should be used to inform the public of financial aid opportunities.

c) A Pennsylvania-sponsored work-study program should be established to allow students to finance a share of their education costs through employment in both the not-for-profit and for-profit sectors.

d) The Pennsylvania Department of Education should periodically review the financial circumstances of community colleges for changes in the maximum funding level and recommend appropriate changes to the General Assembly.

e) Legislation should be developed to provide variable stipend levels reflecting actual costs of the community college programs contracted by the Commonwealth and their benefit to the Commonwealth.

f) Pennsylvania's grants to students should be more tuition-sensitive in order to have them used most effectively by students who need them.

g) Career education programs should be developed to address the changing needs of displaced workers and homemakers seeking new skills.

h) Act 101 should be expanded to provide for increased opportunities for educationally and economically disadvantaged full-time and part-time students at additional institutions.

ECONOMIC REVITALIZATION

No theme received such strong acceptance among Commission members as that of the important role of higher education in the economic revitalization of the Commonwealth. The three specific topics within this concept that received special attention are the following: first, the role of colleges and universities in developing an appropriately educated work force; second, the use of institutional research capabilities in the Commonwealth to assist with the expansion of industry into new areas with potential growth; third, the importance of cooperative relationships among business, industry, higher education and government.

The Commission believes these three elements are closely interrelated. The state's colleges and universities should support technological proficiency and innovation by educating the professional work force in an appropriate up-to-date manner and should provide a strong and expanding research base for the state's economy. Research provides the new knowledge that leads to innovative products, new technologies, and expanded enterprises; education sharpens creative minds that will envision and shape the advances of the future. The quality and quantity of research by Pennsylvania's universities has generated significant development of business and industry in the Commonwealth.

A good example of how higher education contributes to economic development is evident in the Ben Franklin Partnership, a program designed to create jobs, to improve productivity and to diversify the state's economy. Since its founding two years ago, this partnership of business, industry, government and higher education has made significant strides toward its goals. The four Advanced Technology Centers in this program have generated $116 million to match $25 million in state grants. These funds have been used for research and development, education and training and the development of businesses in more than 300 separate projects. Through these efforts, 77 new firms have been established, 52 others have expanded, and over 1,000 jobs have been created and retained.

Economic revitalization partnership opportunities exist in each sector of higher education in the areas of basic research, customized job training, small business development and management assistance and other initiatives. Higher education representatives need to reach out to identify these opportunities and build productive partnerships with private industry.

In considering the resource needs of each of these major areas, the Commission found a number of opportunities for growth. Modern instruments and equipment are needed so that institutions can provide technological research and adequate education, which then leads to meaningful employment in emerging industries. The Commonwealth should share in the costs associated with properly equipping laboratories and classrooms by both direct appropriations and indirect

methods. A good start has been made with funds for career education made available by the Commonwealth's Economic Development Bond Issue program, but further steps are needed. Institutions should also look to private industry for help.

The physical plant maintenance needs are the responsibility of each institution in the various sectors. However, the institutions of the SSHE were until recently wholly state-run and a number of facilities were allowed to deteriorate substantially. The SSHE Board inherited a serious deferred maintenance problem, amounting to approximately $10 million in repair costs. State matching assistance to address this deferred maintenance problem is appropriate and the SSHE Board should develop a long-term strategy for maintaining its $1.5 billion physical plant.

Private industry gains an obvious tax advantage by contributing sophisticated equipment to colleges and universities. The Commonwealth and the institutions of higher education should make a concerted effort to inform corporations of the incentives available to them for donating appropriate, modern equipment to postsecondary institutions. The institutions, continuing to solicit such donations, should make potential donors aware of the importance of state-of-the-art equipment in educating future employees for their industries. In addition, the public and private institutions should invite local business and community leaders to serve on their governing boards and in other capacities on behalf of the institution. Such efforts encourage increased private support and an exchange of ideas from people with diverse backgrounds and interests.

The availability of, and access to, two-year postsecondary career programs is another issue studied by the Commission. Historically, career education has made substantial contributions to the economy of the nation and to the personal well-being of its recipients. It is clear, however, that a technologically directed society requires that the work force be educated to a higher degree of sophistication than is present in traditional career education programs. Career programs at the associate degree level are an important source of such education. The Commission also decided that an aid incentives program was needed to encourage students to enter understaffed professions and to help the state's economy by working in Pennsylvania after graduation.

While several regions of the Commonwealth remain unserved by career education opportunities, delivery systems exist to provide career education to a large majority of Pennsylvania's population. Included among deliverers are the many proprietary schools, community colleges, and the associate degree programs offered by four-year institutions. The Commission's view, however, is that additional programs are needed and that curricular offerings must be expanded to include contemporary uses of sophisticated technology to meet the emerging needs of the state's economy.

A more imaginative approach to the delivery of quality associate-degree education is needed in the Commonwealth. The Commission encourages prompt completion of a career education strategy plan to deliver career education to citizens in the unserved areas without creating new campuses and faculties. The Commission further encourages the state to use facilities and faculties from existing institutions for these purposes.

TO ENHANCE HIGHER EDUCATION'S ROLE IN ECONOMIC REVITALIZATION, THE COMMISSION RECOMMENDS THAT:

a) Institutions of higher education should increasingly become active partners with business and industry and work toward common goals.

b) The Commonwealth should assist the higher education community to modernize the instructional equipment and instruments used particularly, but not exclusively, in the science and technology programs of all sectors.

c) Every high school graduate in the Commonwealth should have reasonable access to a two-year postsecondary occupational program. The problem of areas currently unserved by postsecondary programs should be addressed as part of an enhanced career education plan.

d) The Commonwealth should provide a special matching funds allocation to address the State System of Higher Education's deferred maintenance problems that existed when the SSHE was established.

e) Institutions should work to increase their involvement with local business and industry, consistent with the Commonwealth's recognition of the role of higher education in economic revitalization, and building upon the Ben Franklin Partnership model.

f) Financial aid incentives, such as non-need grants and loan forgiveness, should be established for students who commit themselves to employment after graduation in specified professions in the state which have critical personnel shortages.

ACCOUNTABILITY AND MANAGEMENT

The public is more willing to support activities in which it has confidence than activities for which it is simply argued that more funds are needed. Institutions of higher education cannot expect the taxpayers of Pennsylvania to invest substantial new funds on their campuses unless it can be shown that doing so constitutes a sound investment. Colleges and universities can do this by performing efficiently and by addressing effectively the needs of society in meaningful ways.

Accountability, as it is used in this report, is predicated on the belief that public confidence can be achieved only if the public can be shown that its funds are being used effectively and carefully by the institutions and students who receive them. It is therefore essential that both institutions and students be held accountable for the ways in which appropriated funds are expended. Taxpayers are entitled to know how their funds are being spent, why they are being spent that way, what is being done to contain costs, and what contributions to society can be expected if additional funds are invested. The collection, tabulation, analysis, and dissemination of data from institutions collectively receiving more than $850 million annually in public funds is an important component in establishing their credibility.

For the reasons cited, the Commission recommends that the Pennsylvania Department of Education develop a useful management information system with the cooperation of the institutions receiving public funds. This management information system will collect, process, and distribute relevant, comparable data on these institutions and on the purposes for which funds are being used.

The Commission realizes that institutions currently provide data to the Commonwealth. However, the Commonwealth should formulate a better conceived approach to collecting relevant, comparable data. State government should be cautioned not to develop an information system that would place an additional burden on the institutions. Similarly, the institutions must come to appreciate the legitimate need of the public sector to collect, analyze, and compare information.

The institutions know best what data are currently available on their campuses. The Commonwealth and the colleges and universities must examine those fields of data now collected, procedures by which they can be more easily collected, and the reports which would flow from such a process in order to develop an information system that produces comparable data. Such data collection processes are used in other states. The Commission, therefore, does not believe it is necessary to invent a new methodology to satisfy its objective of accountability. Rather, it suggests that processes currently used in other states be examined thoroughly. A concerted effort should be made, with the full cooperation of the institutions of higher education affected, to find ways to tailor such a project to meet the goals of Pennsylvania. The Advisory Committee of the State Board of Education's Council of Higher Education is the appropriate place for this cooperative project. The purpose of such an information system is to ensure uniformity of data so that statistics are comparable. This effort should seek methods to consolidate and modify existing data reports in order to reduce the total amount of reporting required of institutions and to

eliminate the difficulties of interpreting existing data. Once developed, the system should be a useful management tool for the institutions in refining their goals and institutional plans as they seek excellence in their programs, faculty, and graduates.

The Commission notes that this management information system should be an effective tool for making decisions on state allocations to institutions. As the Commonwealth establishes specific goals with participation of colleges and universities, and as data are collected, the State should use the criteria in allocating funds to institutions. The allocations should be made on a differential basis, supported by proven performance and differentiated missions. These missions should be articulated in the forthcoming Master Plan. Criteria-based differential funding would not replace threshold funding for existing programs. It would be used to adjust funding to institutions in light of changing circumstances on each campus, to implement new initiatives within the Commonwealth, and to fund special projects that are consistent with goals of the Commonwealth and the institutions. Only through the use of comparable data could criteria-based funding become a rational alternative to the current processes. Such factors as enrollment trends, tuition levels, the mix and cost of program offerings, management's efforts to contain costs, the institution's long range planning, its responsiveness to its community's culture and economy, and various output measures could be used as criteria for this funding method.

As Commonwealth goals and aspirations for activities to be conducted by colleges and universities evolve and as comparable data on institutions become available, the Commission suggests that alternative funding methods for special programs be considered. The Commonwealth should enter contractual relationships with public and private institutions possessing special demonstrated strengths to perform clearly defined services. The contracts and renewal of contracts should be based on the factors previously stated and specific criteria derived from Commonwealth goals. These should be multiple year contracts so that start-up costs and personnel decisions can be amortized.

Effective and efficient management of higher education institutions is a critical need today and will be even more so in coming years. Colleges and universities must strive to maintain quality research and educational programs while educating an older, more career-oriented student population and promoting economic revitalization. The Commonwealth and the professional organizations and associations serving higher education institutions need to work together and share advanced management practices so that higher education can use new skills when addressing the emerging challenges.

Many citizens of Pennsylvania, including students and their families, are not aware of the degree to which the state subsidizes education at the state-supported universities. Students attending the state-owned institutions, for example, have their tuition subsidized by over $3,000 per academic year. Tuition paid by students and their families covers only a part of the total cost for a student's college education. The Commission believes it would be instructive if notification of the Commonwealth's share of higher education costs were sent to students as part of the billing process.

TO INCREASE PUBLIC ACCOUNTABILITY AND ENHANCE MANAGEMENT IN HIGHER EDUCATION, THE COMMISSION RECOMMENDS THAT:

a) A Management Information System should be developed, with the full involvement and cooperation of the institutions of higher education, to provide relevant and comparable data on activities and costs in Pennsylvania higher education.

b) The State Board of Education should establish Commonwealth goals that institutions should incorporate as part of their own goals and objectives plan. Institutions should maintain their autonomy to determine specific plans to achieve the goals.

c) Colleges and universities should establish goals and objectives in support of their own missions as well as goals outlined by the Commonwealth.

d) The present method of funding higher education sectors based on annual incremental increases should be replaced by a system that incorporates the review of differentiated missions and specific performance criteria.

e) Opportunities should be made available for public and private institutions of higher education to bid on contract research and other special programs for the Commonwealth. This process provides a competitive, nonincremental method of funding special programs in higher education.

f) To ensure greater accountability of state funds directly appropriated for an institution, the Commonwealth should develop a system of contracting based on the benefits of the programs to citizens of Pennsylvania. Such a system would provide goal-specific projects of value to the Commonwealth and within the demonstrated competencies of the institutions involved.

g) Institutions should include a breakdown of the Commonwealth's share of higher education costs in tuition bill packets.